**Methods Trial 1 (C. Baukal)**

OCED 5233 Advanced Instructional Procedures in Occupational Education

Spring 2013 (Dr. Ausburn)

Student Scaffolding

I tried Strategy 28: Use student peers to scaffold each other’s learning in *What Successful Teachers Do – 91 Research-Based Classroom Strategies for New and Veteran Teachers* by N.A. Glasgow and C.D. Hicks (Thousand Oaks, CA: Corwin Press, 2003). I’m teaching a Mechanical Engineering course with 13 students this semester at Oral Roberts University called Experimental Methods where we study how to design and conduct laboratory tests. As part of their grade, I have each student present a lecture on a section in the textbook. Everyone in the class is supposed to already have read the material before class. I sometimes give them a short pop quiz before the lecture to “encourage” them to read the material – the quiz is very easy if they read the material but not very easy if they haven’t. The lecture is designed to enhance and expand on the material in the text. For example, the text has black-and-white static images, so the student lecturers are encouraged to find color images and videos to illustrate the material. Then I usually have the class break into small groups to select appropriate instruments from the ones just presented by the student lecturer for a scenario that I give them where there is usually more than one correct answer. My instructional interest is hearing them discuss the process they used to select their instruments because I want to make sure they are properly reflecting on their selections.

In the past, the student lecturer would join one of the groups just like the rest of the students. I tried something different to try to use the student lecturer’s enhanced knowledge on the subject which comes when one prepares to teach others about a subject. Instead of being a participant, the student lecturer was told to act like a roving consultant (scaffolder) for all of the groups. The groups were supposed to make their own selections but could consult with the student lecturer to check their choices. For this scenario, the groups had to select four flow meters for different aspects of oil production starting with measuring the flow of raw crude oil coming out of the ground all the way to measuring the finished gasoline leaving the refinery. After all groups were finished making their selections, they shared their answers with the class. This turned out to be more of a learning experience than I expected. The first group shared their first instrument selection, which they had discussed with the student lecturer. While there are usually multiple correct answers, there are some answers that are wrong for a particular scenario. In this case, the very first answer shared was wrong, even though it had the blessing of the student consultant. The group had selected a flow meter designed for clean low-viscosity fluids which was not appropriate for crude oil which is dirty and high-viscosity. This turned out to be a good learning opportunity for everyone, because an important element of this course is being able to justify selections, which is what they will have to do when they go to work for a company as an engineer. I plan to use students more often to help scaffold their peers as this will encourage the student lecturers to be prepared and it will encourage the other students to take advantage of this resource to enhance their learning.